UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

Ref: 8ES-MEB

November 30, 1995

MEMORANDUM

SUBJECT: Data validation for Rico Argentine Mine Site, Case #24008, SDG # HQ922

FROM: Russ Leclerc
Chemist
Program Support Group, Technical Support Team

TO: Greg Oberly
8HWM-SM

The Environmental Services Assistance Team (ESAT) has completed its review of data from the analysis of twenty soil samples for full Contract Laboratory Program (CLP), Routine Analytical Services (RAS) organic analyses for **Rico Argentine Mine Site, Case 24008**, Sample Delivery Group (SDG) **#HQ922**. I have evaluated ESAT's data validation package and agree with ESAT's review. Data in the enclosed package are acceptable with the qualifiers added to the data reports. Please refer to the attached ICF Kaiser data validation report including the narrative summary and comments for a full explanation of the data review findings.

If you have any questions,or if I can be of further assistance, please contact me at 312-6971.

Attachments

REGION VIII
SUMMARY OF CLP DATA QUALITY ASSURANCE REVIEW
ORGANICS - VOLATILE, SEMIVOLATILE, PESTICIDE/AROCLOR

CASE NO.	SITE NAME		SITE ID/OPERABLE UNIT
24008	Rico Argentine Mine		8ZZ/00
RPM NAME	ESAT TID: 08-9510-703		
Greg Oberly	ESAT WUD: 23		
CONTRACTOR LABORATORY	CONTRACT NO.	SDG NO.	LABORATORY TPO/REGION
Recra Environmental, Inc.	68-D5-0010	HQ922	Stevie Wilding/III

Data Reviewer Kristy K. Grove
Review Completion Date 11/28/95

SAMPLE ID	SAMPLE LOCATION	MATRIX	DATE SAMPLED	ANALYSIS
HQ922	RA-WSO-05	Soil	09/11/95	CLP RAS organics
HQ923	RA-WSO-06	Soil	09/11/95	CLP RAS organics
HQ924	RA-WSO-07	Soil	09/11/95	CLP RAS organics
HR474	RA-WSE-02	Soil	09/13/95	CLP RAS organics
HR476	RA-WSE-03	Soil	09/13/95	CLP RAS organics
HR550	RA-SE-10	Soil	09/11/95	CLP RAS organics
HR552	RA-SE-11	Soil	09/11/95	CLP RAS organics
HR556	RA-SE-08	Soil	09/11/95	CLP RAS organics
HR557	RA-SE-09	Soil	09/11/95	CLP RAS organics
HR559	RA-SE-07	Soil	09/12/95	CLP RAS organics
HR562	RA-SE-04	Soil	09/12/95	CLP RAS organics
HR565	RA-SE-06	Soil	09/12/95	CLP RAS organics
HR566	RA-WSO-03	Soil	09/12/95	CLP RAS organics
HR568	RA-SE-03	Soil	09/12/95	CLP RAS organics
HR569	RA-SO-01	Soil	09/12/95	CLP RAS organics
HR571	RA-SE-02	Soil	09/12/95	CLP RAS organics
HR573	RA-WSO-04	Soil	09/12/95	CLP RAS organics
HR575	RA-SE-05	Soil	09/12/95	CLP RAS organics
HR578	RA-SO-02	Soil	09/12/95	CLP RAS organics
HR580	RA-SE-01	Soil	09/13/95	CLP RAS organics

Reviewed 11/28/95

DATA QUALITY STATEMENT*

( ) Data are ACCEPTABLE according to EPA Functional Guidelines with no qualifiers (flags) added by the reviewer.

( ) Data are UNACCEPTABLE according to EPA Functional Guidelines.

(X) Data are acceptable with QUALIFICATIONS noted in review.

Telephone/Communication Logs Enclosed? Yes ___ No _X_

TPO Attention Required? Yes _X_ No ___ If yes, list the items that require attention:

The laboratory did not mention in the Case Narrative the reason that sample HR552 was analyzed for pesticide/PCBs at a two fold dilution and sample HR573 was analyzed at an eight fold dilution. Review of the chromatographic profiles indicated the presence of an interfering non-target compound. Similar results were found in additional pesticide analyses from the same laboratory, but different sampling site, indicating a laboratory contamination problem. See Section VIII - Pesticide Sample Results.

* Please see Data Qualifier Definitions, attached to the end of this report.

REVIEW NARRATIVE SUMMARY

This data package was reviewed according to the EPA document *National Functional Guidelines for Organic Data Review*, February 1994.

Case 24008, SDG HQ922, consisted of 20 soil samples for full CLP RAS organic analyses.

Water samples HR482, HR560, and HR577 from Case 24008, SDG HR479 and SDG HR549 were designated rinsate blanks and were used to evaluate sample results. Water samples HR483, HR478, HR572, HR576, and HR563 from Case 24008, SDG HR479 and SDG HR549 were designated volatile QC blanks and were used to evaluate volatile organic sample results. Results for the rinsate and field blanks are attached to the end of the report.

The laboratory performed the required library search on all non-target sample components. All tentatively identified compounds (TICs) were qualified "NJ" - tentatively identified at an estimated concentration. TICs detected in the samples and associated blanks were qualified "R" rejected.

The following tables list all data qualifiers added to the data.

SAMPLE NUMBER	VOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
All	methylene chloride	UJ	Initial Calibration	IV
All	methylene chloride	UJ	Continuing Calibration	
HQ922, HQ923, HQ924, HR550, HR552, HR556, HR557, HR559, HR562, HR565, HR568	carbon disulfide	UJ or J		
HR565, HR568, HR568RE	All	UJ or J	Internal Standard Area	VII
HR565RE	1,1,1-trichloroethane, carbon tetrachloride, bromodichloromethane, bromoform, benzene, 1,2-dichloropropane, trans-1,3-dichloropropene, trichloroethene, dibromochloromethane, 1,1,2-trichloroethane, cis-1,3-dichloropropene, 2-hexanone, 4-methyl-2-pentanone, tetrachloroethene, 1,1,2,2-tetrachloroethane, toluene, chlorobenzene, ethylbenzene, styrene, xylene (total)			

SAMPLE NUMBER	VOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
HQ922, HQ923, HQ924, HR474, HR550, HR556, HR557, HR559, HR562, HR565, HR566, HR573, HR565RE	methylene chloride	U	Laboratory Blank Results	VIII
HR568, HR568RE		11 U		
HR552, HR571, HR578, HR580		12 U		
HR476		13 U		
HR569		14 U		
HR575		15 U		

SAMPLE NUMBER	SEMIVOLATILE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
HR557, HQ922, HR550, HR552, HR566, HR569, HR575, HR578, HQ923	2,2'-oxybis(1-chloropropane)	UJ	Continuing Calibration	IV
HR556	4-methylphenol			
HR550, HR552, HR566, HR569, HR575, HR578	N-nitroso-di-n-propylamine			
HQ923	hexachlorobutadiene			
HR556, HR550, HR552, HR566, HR569, HR575, HR578	4-nitrophenol			
HQ923	di-n-butylphthalate, bis(2-ethylhexyl)phthalate	410 U	Laboratory Blank Results	VIII
HQ924		390 U		
HQ923	butylbenzylphthalate	410 U	Sample Results	IX
HQ924		390 U		

SAMPLE NUMBER	PESTICIDE COMPOUND	QUALIFIER	REASON FOR QUALIFICATION	REVIEW SECTION
HQ922	aldrin, endosulfan I, endosulfan II, endrin aldehyde, alpha-chlordane	NJ	Sample Results	VIII
HQ924	beta-BHC			
HR476	aldrin			
HR578	heptachlor, aldrin, heptachlor epoxide, endosulfan I, endrin, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT, endrin ketone, alpha-chlordane, gamma-chlordane			
HR569	endosulfan sulfate, 4,4'-DDT			

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**
VOLATILE

Quality Control Summary Package
- P Surrogate Recovery Summary (Form II)
- P MS/MSD Summary (Form III)
- P Method Blank Summary (Form IV)
- P GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package
- P Holding Times (SMO Sample Traffic Reports)
- P Organic Analysis Data Sheets (Form I)
- P Reconstructed Ion Chromatogram(s) (RIC)
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Mass Spectral Library Search for TICs

Standards Data Package
- NR Current List of Laboratory/Instrument Detection Limits
- P Initial Calibration Data (Form VI) for each instrument
- P Continuing Calibration Data (Form VII) for each instrument
- P Internal Standard Area Summary (Form VIII)
- P Volatile Standards RICs
- P Volatile Standards Quantitation Reports

Raw QC Package
- P BFB mass spectra and mass listings

Reagent Blank data
- P Organic Analysis Data Sheets (Form I)
- P RIC or Total Ion Chromatogram
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Library Search for TICs

Matrix Spike/Matrix Spike Duplicate Data
- P Organic Analysis Data Sheets
- P RIC
- P Quantitation Reports
- NR Mass Spectral Data
- NR EPA/NIH Library Search for TICs

KEY: P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

VOLATILE: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

VOLATILE: Yes _X_ No ___

Comments: None.

All **technical** holding times were met.

VOLATILE: Yes _X_ No ___

Comments: None.

III. **BFB PERFORMANCE RESULTS**

The BFB performance results were within the specified control limits. All appropriate BFB results were included.

VOLATILE: Yes _X_ No ___

Comments: None.

IV. **INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS**

Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines.

VOLATILE: Yes ___ No _X_

Comments: The laboratory met all the SOW requirements. However, one compound was outside control limits of less than 30% relative standard deviation (%RSD) for the initial calibration. The following table lists the compound, %RSD, associated samples, and qualifiers added to the data.

COMPOUND	%RSD	ASSOCIATED SAMPLES	QUALIFIERS
methylene chloride	60.7	All	UJ or J*

* Methylene chloride was subsequently flagged "U" due to blank contamination. The final qualifier is a "U" flag and "UJ" qualifier.

Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines.

VOLATILE: Yes ___ No _X_

Comments: The laboratory met all the SOW requirements. However, when compared to the initial calibration, two compounds were outside control limits of less than 25 percent difference (%D) for the continuing calibration. Listed below are the compounds, %D, associated samples, and qualifiers added to the data.

COMPOUND	%DIFFERENCE	ASSOCIATED SAMPLES	QUALIFIERS
carbon disulfide	28.0	HQ922, HQ923, HQ924, HR550, HR552, HR556, HR557, HR559, HR562, HR565, HR568	UJ or J
methylene chloride	38.3		UJ or J*
	47.8	HR474, HR565RE, HR566, HR568RE, HR569, HR571, HR573, HR575, HR580	
	48.1	HR476, HR578	

* Methylene chloride was subsequently flagged "U" due to blank contamination. The final qualifier is a "U" flag and "UJ" qualifier.

V. **SURROGATE COMPOUND RECOVERY**

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

VOLATILE: Yes _X_ No ___

Comments: None.

VI. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

VOLATILE: Yes _X_ No ___

Comments: None.

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

VII. **INTERNAL STANDARD AREA**

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

VOLATILE: Yes ___ No _X_

Comments: Two samples had internal standard areas outside quality control limits of -50 to +100% of the associated continuing calibration internal standard area as listed in the following table. Reanalysis results indicate possible matrix interferences.

SAMPLE	INTERNAL STANDARD	INTERNAL STANDARD AREA	CONTROL LIMITS	ASSOCIATED COMPOUNDS	QUALIFIERS
HR565	bromochloromethane	16346	19368-77470	All	UJ or J
	1,4-difluorobenzene	64717	75684-302738		
	chlorobenzene-d_5	50968	61422-245686		
HR568	bromochloromethane	18707	19368-77470		
	1,4-difluorobenzene	73313	75684-302738		
	chlorobenzene-d_5	59677	61422-245686		
HR565RE	1,4-difluorobenzene	49352	50674-202696	1,1,1-trichloroethane, carbon tetrachloride, bromodichloromethane, bromoform, benzene, 1,2-dichloropropane, trans-1,3-dichloropropene, trichloroethene, dibromochloromethane, 1,1,2-trichloroethane, cis-1,3-dichloropropene	
	chlorobenzene-d_5	39386	42318-169274	2-hexanone, 4-methyl-2-pentanone, tetrachloroethene, 1,1,2,2-tetrachloroethane, toluene, chlorobenzene, ethylbenzene, styrene, xylene (total)	
HR568RE	bromochloromethane	8823	12363-49452	All	
	1,4-difluorobenzene	35630	50674-202696		
	chlorobenzene-d_5	28570	42318-169274		

ORGANIC RAS VOLATILE DATA QUALITY ASSURANCE REVIEW

VIII. **LABORATORY BLANK ANALYSIS RESULTS**

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

VOLATILE: Yes ___ No _X_

Comments: Methylene chloride, a common volatile laboratory contaminant, was detected in the volatile method blanks as summarized in the following table. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the EPA document *National Functional Guidelines for Organic Data Review*, February 1994.

BLANK ID	DATE	CONTAMINANT	CONCENTRATION FOUND IN BLANK	SAMPLE CRQL	ASSOCIATED SAMPLES	CONCENTRATION FOUND IN SAMPLE	QUALIFIER/ ADJUSTMENT
VBLK56	09/20/95	methylene chloride	15 µg/Kg	11	HQ922	12 µg/Kg	U
				12	HQ923	22 µg/Kg	U
				12	HQ924	13 µg/Kg	U
				16	HR550	18 µg/Kg	U
				12	HR552	8 µg/Kg	12 U
				12	HR556	18 µg/Kg	U
				13	HR557	19 µg/Kg	U
				12	HR559	12 µg/Kg	U
				12	HR562	14 µg/Kg	U
				110	HR565	130 µg/Kg	U
				11	HR568	10 µg/Kg	11 U
VBLK57	09/21/95	methylene chloride	25 µg/Kg*	12	HR474	13 µg/Kg	U
				110	HR565RE	120 µg/Kg	U
				12	HR566	18 µg/Kg	U
				11	HR568RE	9 µg/Kg	11 U
				14	HR569	9 µg/Kg	14 U
				12	HR571	10 µg/Kg	12 U
				12	HR573	24 µg/Kg	U
				15	HR575	13 µg/Kg	15 U
				12	HR580	10 µg/Kg	12 U
VBLK58	09/22/95	methylene chloride	5 µg/Kg	13	HR476	4 µg/Kg	13 U
				12	HR578	6 µg/Kg	12 U

* Contamination is at the CLP SOW maximum allowable concentration.

Comments: Chloroform and acetone were detected in the rinsate and volatile field QC blanks. These compounds were not detected in the associated soil samples. The volatile storage blank was reviewed and met CLP SOW requirements. No qualifiers were added to the data.

Comments: Tentatively identified compounds (TICs) were found in the volatile method blanks. All TICs in the associated samples were previously qualified "NJ" - estimated tentatively identified compounds in the Review Summary. The following table lists blank results, associated samples and qualifiers added to the data.

BLANK ID	DATE	TIC RETENTION TIME	ASSOCIATED SAMPLES	QUALIFIERS
VBLK56	09/20/95	11.67	HQ922, HQ924, HR550, HR557, HR562	R
		15.73	HQ922, HQ923, HQ924, HR550, HR552, HR556, HR557, HR559, HR562, HR565, HR568	
VBLK57	09/21/95	11.69	HR474, HR568RE, HR569, HR571, HR575, HR580	
		15.77	HR474, HR565RE, HR566, HR568RE, HR569, HR571, HR573, HR575, HR580	
		18.66	HR474, HR580	
VBLK58	09/22/95	15.77	HR476, HR578	

IX. **SAMPLE RESULTS**

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

VOLATILE: Yes _X_ No ___

Comments: None.

X. **Additional Comments or Problems/Resolutions not addressed above.**

VOLATILE: None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**
SEMIVOLATILE

Quality Control Summary Package
- P Surrogate Recovery Summary (Form II)
- P MS/MSD Summary (Form III)
- P Method Blank Summary (Form IV)
- P GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package
- P Holding Times (SMO Sample Traffic Reports)
- P Organic Analysis Data Sheets (Form I)
- P Reconstructed Ion Chromatogram(s) (RIC)
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Mass Spectral Library Search for TICs

Standards Data Package
- NR Current List of Laboratory/Instrument Detection Limits
- P Initial Calibration Data (Form VI) for each instrument
- P Continuing Calibration Data (Form VII) for each instrument
- P Internal Standard Area Summary (Form VIII)
- P Semivolatile Standards RICs
- P Semivolatile Standards Quantitation Reports

Raw QC Package
- P DFTPP mass spectra and mass listings

Reagent Blank data
- P Organic Analysis Data Sheets (Form I)
- P RIC or Total Ion Chromatogram
- P Quantitation Reports
- P Mass Spectral Data
- P EPA/NIH Library Search for TICs

Matrix Spike/Matrix Spike Duplicate Data
- P Organic Analysis Data Sheets
- P RIC
- P Quantitation Reports
- NR Mass Spectral Data
- NR EPA/NIH Library Search for TICs

KEY: P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

All **technical** holding times were met.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

III. **DFTPP PERFORMANCE RESULTS**

The DFTPP performance results were within the specified control limits. All appropriate DFTPP results were included.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

IV. **INSTRUMENT CALIBRATIONS: INITIAL AND CONTINUING STANDARDS**

Initial instrument calibrations were performed according to SOW requirements and met the specified control limits listed in the functional guidelines.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

Continuing instrument calibration was performed according to SOW requirements and met specified control limits listed in the functional guidelines.

SEMIVOLATILE: Yes ___ No _X_

Comments: The laboratory met the SOW requirements. However, when compared to the initial calibration, several compounds were outside control limits of less than 25 percent difference (%D) for the continuing calibration. Listed below are the compounds, %D, associated samples, and qualifiers added to the data.

COMPOUND	%DIFFERENCE	ASSOCIATED SAMPLES	QUALIFIERS
2,2'-oxybis(1-chloropropane)	31.9	HR557, HQ922	UJ
	41.9	HR550, HR552, HR566, HR569, HR575, HR578	
	41.0	HQ923	
4-methylphenol	26.1	HR556	
N-nitroso-di-n-propylamine	25.6	HR550, HR552, HR566, HR569, HR575, HR578	
hexachlorobutadiene	27.6	HQ923	
4-nitrophenol	32.0	HR556	
	31.2	HR550, HR552, HR566, HR569, HR575, HR578	

V. **SURROGATE COMPOUND RECOVERY**

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

VI. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

VII. **INTERNAL STANDARD AREA**

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

SEMIVOLATILE: Yes _X_ No ___

Comments: None.

VIII. **LABORATORY BLANK ANALYSIS RESULTS**

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

SEMIVOLATILE: Yes ___ No _X_

Comments: Common semivolatile phthalate contamination was detected in one of the semivolatile extraction blanks as summarized in the following table. Quantitation limits in the associated samples were raised in accordance with the rules set forth in the EPA document *National Functional Guidelines for Organic Data Review*, February 1994.

BLANK ID	DATE	CONTAMINANT	CONCENTRATION FOUND IN BLANK	SAMPLE CRQL	ASSOCIATED SAMPLES	CONCENTRATION FOUND IN SAMPLE	QUALIFIER/ ADJUSTMENT
SBLK2	09/21/95	di-n-butylphthalate	33 µg/Kg	410	HQ923	72 µg/Kg	410 U
				390	HQ924	31 µg/Kg	390 U
		bis (2-ethylhexyl)phthalate	26 µg/Kg	410	HQ923	66 µg/Kg	410 U
				390	HQ924	37 µg/Kg	390 U

Comments: The laboratory also reported butylbenzylphthalate in SBLK2 and associated samples HQ923 and HQ924. However, the mass spectrum did not meet the minimum requirements specified in the SOW. See Section IX, Sample Results.

Comments: No contamination was reported in the designated semivolatile rinsate blanks.

Comments: Tentatively identified compounds (TICs) were found in the semivolatile extraction blanks. All TICs in the associated samples were previously qualified "NJ" - estimated tentatively identified compounds in the Review Summary. The following table lists blank results, associated samples and qualifiers added to the data.

BLANK ID	DATE	TIC RETENTION TIME	ASSOCIATED SAMPLES	QUALIFIERS
SBLK1	09/15/95	12.92	HR568	R
		30.32	HR550, HR552, HR556, HR557, HR559, HR562, HR566, HR568, HR571, HR573, HR575, HR578	
SBLK3	09/18/95	12.75	HR474, HR580	
		30.15	HR474, HR476, HR580	
SBLK2	09/21/95	12.73	HQ924	
		29.37, 30.05, 31.55	HQ923, HQ924	
		30.82	HQ923	

IX. **SAMPLE RESULTS**

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

SEMIVOLATILE: Yes ___ No _X_

Comments: The laboratory reported butylbenzylphthalate in SBLK2 and associated samples HQ923 and HQ924. However, the mass spectrum did not meet the minimum requirements specified in the SOW. The results for butlybenzylphthalate were raised to the CRQL of 410 µg/Kg for HQ923 and 390 µg/Kg for HQ924 and flagged "U" - undetected.

X. **Additional Comments or Problems/Resolutions not addressed above.**

SEMIVOLATILE: None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

SOW Number OLM03.0
Revision OLM03.1 **RAS ORGANIC DATA COMPLETENESS CHECKLIST**

PESTICIDE/AROCLOR

Quality Control Summary Package

P Surrogate Recovery Summary (Form II)
P MS/MSD Summary (Form III)
P Method Blank Summary (Form IV)
NA GC/MS Tuning and Mass Calibration (Form V)

Sample Data Package

P Holding Times (SMO Sample Traffic Reports)
P Organic Analysis Data Sheets (Form I)
P GC/EC Chromatograms
P Pesticide Identification Summary for Single Component Analytes (Form X-1) -for positive results only
P Pesticide Identification Summary for Multicomponent Analytes (Form X-2) -for positive results only

Standards Data Package

NR Current List of Laboratory/Instrument Detection Limits
P Pesticide Initial Calibration of Single Component Analytes (Form VI-1,2)
P Pesticide Initial Calibration of Multicomponent Analytes (Form VI-3)
P Pesticide Analyte Resolution Summary (Form VI-4,5,6,7)
P Pesticide Calibration Verification Summary (Form VII-1,2)
P Pesticide Analytical Sequence (Form VIII)
P Pesticide Florisil Cartridge Check (Form IX-1)
P Pesticide GPC Calibration (Form IX-2)
P Pesticide/Aroclor Standard Chromatograms and Data System Printouts

Reagent Blank data

P Organic Analysis Data Sheets (Form I)
P GC/EC Chromatograms and Data System Printouts

Matrix Spike/Matrix Spike Duplicate Data

P Organic Analysis Data Sheets
P GC/EC Chromatograms and Data System Printouts

KEY: P = Provided in original data package, as required by the SOW
R = Provided as Resubmission
NP = Not provided in original data package or as resubmission
NR = Not required under the SOW
NA = Not applicable to this data package or analysis

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

I. **DELIVERABLES**

All deliverables were present as specified in the statement of work.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

II. **HOLDING TIMES**

All **CLP-SOW** holding times were met.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

All **technical** holding times were met.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

III. **SURROGATE COMPOUND RECOVERY**

Surrogate compound recovery analysis was performed according to SOW requirements and results met specified control limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

IV. **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

Matrix Spike/Matrix Spike Duplicate analysis was performed according to SOW requirements and results met recommended recovery and precision limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

V. **INTERNAL STANDARD AREA**

Internal standard area analysis was performed according to SOW requirements and results met specified control limits.

PESTICIDE/AROCLOR: Yes ___ No ___ N/A _X_

Comments: None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

VI. **PESTICIDE / AROCLOR STANDARDS CRITERIA**

The pesticide resolution check mixture analysis was performed according to SOW requirements and results met recommended recovery limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

The pesticide performance evaluation mixture analysis was performed according to SOW requirements and results met recommended recovery limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

The breakdown of 4,4'DDT and of Endrin was less than 20% and the combined breakdown was less than 30%.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

The decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX) retention time shifts were within the specified control limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

In the initial calibration, the single component pesticides showed a percent difference of no more than 20% relative standard deviation (RSD) (no more than 25% RSD for alpha-BHC and delta-BHC) on both columns.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

In the continuing calibrations, the single component pesticides showed a percent difference (%D) of no more than 25% on both columns.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

The multi-component target compound analyses were performed according to SOW requirements.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

The florisil cartridge lot check analysis was performed according to requirements and all spike compounds were within the specified quality control limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: None.

The gel permeation chromatography (GPC) check was performed according to requirements and all spike compounds were within the specified quality control limits.

PESTICIDE/AROCLOR: Yes _X_ No ___ N/A ___

Comments: None.

VII. **LABORATORY BLANK ANALYSIS RESULTS**

The laboratory blank analysis was performed according to SOW requirements and met specified control limits.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: The instrument, preparation, and field blank results were reviewed and met SOW requirements.

VIII. **SAMPLE RESULTS**

The sample results were reviewed and all compound identifications were acceptable and met SOW requirements.

PESTICIDE/AROCLOR: Yes _X_ No ___

Comments: The percent difference (%D) between the dual column quantitation of several positive results was greater than 25%. The laboratory correctly reported the smaller concentration of the two quantitated concentrations and flagged the results "P" as required by the SOW. Alternative analysis may be necessary to confirm peak identity for compounds with a significantly large dual column quantitation percent difference. The following table summarizes sample results.

ORGANIC RAS SEMIVOLATILE DATA QUALITY ASSURANCE REVIEW

SAMPLE NUMBER	COMPOUND	PERCENT DIFFERENCE	QUALIFIER
HQ922	aldrin	223.6	NJ
	endosulfan I	156.7	
	endosulfan II	104.0	
	endrin aldehyde	616.0	
	alpha-chlordane	41.0	
HQ924	beta-BHC	124.3	
HR476	aldrin	87.6	
HR578	heptachlor	26.0	
	aldrin	42.4	
	heptachlor epoxide	72.1	
	endosulfan I	336.2	
	endrin	149.1	
	4,4'-DDD	98.8	
	endosulfan sulfate	233.2	
	4,4'-DDT	261.8	
	endrin ketone	33.3	
	alpha-chlordane	327.2	
	gamma-chlordane	557.6	

Comments: Due to overlapping retention time windows on the RTX-5 column, the laboratory used the area from one peak to quantitate both endosulfan sulfate and 4,4'-DDT in sample HR569. The dual column quantitation was less than the recommended 25% difference for both compounds. However, because of the overlapping retention time windows, both endosulfan sulfate and 4,4'-DDT were qualified "NJ" tentatively identified at an estimated concentration.

Comments: Due to overlapping retention time windows on the RTX-5 column, the laboratory used the area from one peak to quantitate both endosulfan sulfate and 4,4'-DDT in sample HR578. Both compounds were previously qualified for dual column quantitation results. No additional qualifiers were added.

Comments: Due to overlapping retention time windows, the laboratory quantitated the same peak for the reported target compounds alpha-chlordane and endosulfan I in sample HR578. Since these compounds were previously qualified "NJ" tentatively identified at an estimated concentration for dual column percent difference results, no additional qualifiers were added to the data.

Comments: The laboratory did not mention in the Case Narrative the reason that sample HR552 was analyzed at a two fold dilution and sample HR573 was analyzed at an eight fold dilution. Review of the chromatographic profiles indicated the presence of an interfering non-target compound. Similar results were found in additional pesticide analyses from the same laboratory, but different sampling site, indicating a laboratory contamination problem. No target compounds were reported in either sample. The laboratory reported elevated quantitation limits. No additional qualifiers were added to the data.

IX. **Additional Comments or Problems/Resolutions not addressed above.**

PESTICIDE/AROCLOR: None.

REGION VIII

DATA QUALIFIER DEFINITIONS

For the purpose of Data Validation, the following code letters and associated definitions are provided for use by the data validator to summarize the data quality.

GENERAL QUALIFIERS for use ORGANIC DATA

R - Reported value is "rejected". Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

J - The associated numerical value is an estimated quantity because the Quality Control criteria were not met.

U J - The reported quantitation limit is estimated because Quality Control criteria were not met. Compound was not detected.

N J - Estimated value of a tentatively identified compound.

TARGET SHEET

EPA REGION VIII

SUPERFUND DOCUMENT MANAGEMENT SYSTEM

DOCUMENT NUMBER: 374983

SITE NAME: RICO ARGENTINE/RICO POND

DOCUMENT DATE: 11/30/1995

DOCUMENT NOT SCANNED

Due to one of the following reasons:

- ☐ PHOTOGRAPHS
- ☐ 3-DIMENSIONAL
- ☐ OVERSIZED
- ☐ AUDIO/VISUAL
- ☐ PERMANENTLY BOUND DOCUMENTS
- ☐ POOR LEGIBILITY
- ☐ OTHER
- ☐ NOT AVAILABLE
- ☑ TYPES OF DOCUMENTS NOT TO BE SCANNED
  (Data Packages, Data Validation, Sampling Data, CBI, Chain of Custody)

DOCUMENT DESCRIPTION:

VOLATILE ORGANICS ANALYSIS DATA SHEETS
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEETS
PESTICIDE ORGANICS ANALYSIS DATA SHEETS

Contact the Superfund Records Center to view available document.
(303) 312-6473